



## **ACADEMIC INTEGRITY**

You are welcome to work with other students while studying for the exams and working on your lab assignments.

However, there are limits to your collaborations.

Directly copying someone else's words without citing the source is plagiarism. Plagiarism, whether it be from fellow students, from electronic sources, or from hard copy sources, is not allowed.

**Academic dishonesty of any kind (cheating on exams, plagiarism, etc.) will result in an F.**

All students are expected to be familiar with and abide by the university's academic integrity policies. Plagiarism detection software will be used to aid in determining the originality of student work.

UB's academic integrity policy can be found here:

<http://undergrad-catalog.buffalo.edu/policies/course/integrity.shtml>

### **\*ATTENDANCE IN RECITATION**

***You must attend each recitation and arrive on time.***

Attendance in recitation will be taken by Top Hat. You should have been sent an invitation to join Top Hat through email. **10 points will be deducted from your final score for each recitation missed without a valid medical excuse.**

### **\*ATTENDANCE IN LAB**

***You must attend each laboratory session and arrive on time.***

Students who arrive after the quiz has finished will receive zero points for that week's quiz.

Because you will be producing reagents in one lab to be used in following lab(s) students are not allowed to switch between lab periods. There are no make up labs.

**No labs may be missed without a valid excuse.** (see "Absences" below) If you miss a lab for an excused reason, you will be provided with any reagents that you were not present to produce.

Fifty points will be subtracted from your overall score for the first unexcused lab. An additional 50 points will be deducted for each additional lab missed, regardless of the excuse. Basically, if you want to pass this course, you will need to show up for lab.

### **ELECTRONICS IN LAB**

For some labs, you will need to use your phone to take pictures of your data. Other than that,

electronics, including computers (except in lab 3.4), phones, and music players, are not allowed to be used in the lab under any circumstances. If you receive an emergency call/text, please leave the lab to answer it.

### LAB SAFETY

1. Lab aprons are provided and you are required to wear either the apron, or a lab coat if you have your own.
2. Since you will be using glass pipettes and chemicals, you must wear shoes that cover your entire foot (i.e., no sandals, open-toed shoes or slings/clogs)
3. Open flames are used frequently. For that reason, you may not wear scarves or clothing with loose sleeves.
4. Also because of open flames, long hair must be pulled back from the face.
5. Mouth pipetting is **NEVER** allowed. Anyone observed mouth pipetting will lose credit for that day (i.e., zero for the quiz and the day counted as an absence).
6. When necessary for safety, you will be provided with eye protection and/or disposable gloves.

### DISABILITY ACCOMMODATIONS

If you have a diagnosed disability that will make it difficult for you to carry out the course work as outlined or requires accommodations such as recruiting note takers, readers, or extended time on exams, **please advise Dr. Berry during the first week of the course.** Arrangements for reasonable accommodations will be considered. Please note that if you wish to receive accommodations for physical or learning disabilities, you must first register with UB's Accessibility Resources Office. (<http://www.student-affairs.buffalo.edu/ods/>)

### LAB REPORTS

Due dates for lab reports are noted on the calendar below. Lab reports don't have to be elaborate or long, but they **MUST BE TYPED.**

The narrative (text) portion of your lab report must be turned in via UBLearn before the start of your lab period. The reports will be filtered through SafeAssign. Reports not submitted by the deadline through SafeAssign will lose 50 points.

**Printed lab reports (narrative plus figures) are due at the start of your lab period. Lab reports turned in more than 10 minutes after the start of lab will lose 25 points. An additional 25 points will be subtracted from your total score for each additional 24hr that the lab is late.**

Written reports are only required for labs 1, 2, and 3. The intro lab has a number of techniques to practice. You will be graded on the results of your techniques for the intro, but there is no lab report necessary for that one.

The easiest way to keep track of your data from each lab is to write it down somewhere as you gather it. Once it is time to write your report, all you'll need to do is go back to your notes and write the data into your report. If you take notes each day, you're less likely to leave out data (& lose points) in your report.

Arrange lab reports as follows:

**Purpose:** Why are you doing this lab? (not previous labs, not future labs, this one)  
Usually, this is only a couple of sentences. The purpose is not a list of what you did in the lab. Instead, it is a statement of the overall goal of the lab.

**Results:** Number each experimental section (1.1, 1.2, etc). For each section, report **ALL DATA** (gel pictures, cell counts, absorbance readings, etc.). Do not re-type methods/instructions from the lab notebook.

Data must be clearly labeled. **Do not leave out data.** If you count it, measure it, take a picture of it, or quantify an experiment in any way, that information needs to be included in your lab report. Graphs must be either derived from a spreadsheet or, if graphed by hand, graphed on graph paper. The numbers on your graphs must reflect the numbers from your data (i.e., you should be able to get a decent estimate of the values for each point when reading the graph). Label any gels on the gel pictures themselves. No points are given when the gel labels are only in the narrative section & not on the gel picture. If you're planning on referring to lane 1, lane 2, etc, please put the numbers on the corresponding lanes. However, don't just put numbers - the contents of each lane also need to be stated right there on the gel picture.

**Discussion:** As with your results, number each experimental section. For each section, say what you expected to find and why. Does your data match what you expected? If so, say that. If your data doesn't match what was expected for the experiment, give a reasonable explanation for why. "Human error" is not an appropriate explanation. Chances are that any unexpected results are due to human error, but you must explain what kind of error (dropped the plate, forgot to add enzyme, etc) No points will be assigned for explanations that simply say "human error."

If there are questions to be answered, answer them at the end of the discussion section.

Lab reports don't have to be very long, but they do need to be complete - each result must be reported and discussed.

## **EXAMS AND LAB PRACTICAL**

Exams will be given during the Monday recitation period as noted on your calendar below. They will be 50 minutes long and will cover only topics that have been covered since the last exam. **EXCEPT** - All exams will include at least one concentration-type calculation questions. This topic will include dilutions of a concentrated solution to make a less concentrated one, molarity calculations, and percentage calculations, including weight-percent (wt/vol) and volume percent (vol/vol). Questions of this type will be on ALL exams. If you don't understand these types of calculations, ask Dr. Berry or your TA questions until you feel comfortable performing the calculations.

If you miss an exam for an approved reason (see "Absences" below), makeup exams must be taken within 24hr of having missed an exam. Exams taken more than 24hr late will lose 25 points. An additional 25 points will be subtracted from your total score for each additional 24hr that the make-up exam is delayed.

A lab practical will be given during the final lab periods, December 4 - 7. The practical will include things like pipetting, proper sterile technique, etc. There will also be a written section with calculation questions on it. Everything asked on the lab practical will be from something you have directly experienced during the course of the semester. The demonstration

portion of the exam will take less than 10 minutes (the time will be decided upon by the TAs; everyone will get the same amount of time) and will be performed under the supervision of a teaching assistant. You will be allowed an additional 30 minutes for the calculation portion of the exam.

### RE-GRADING

Requests for re-grades go to Dr. Berry. Your request must be made in within one week after the graded exam or lab report has been handed back to the class. Please note that this time limit is the same for everyone, even for students who weren't present to pick up their exams or lab reports. If it takes you more than a week to pick up your exam or lab report, then you will not be able to request a re-grade.

### CALCULATORS

Only numeric calculators may be used on exams. Alpha-numeric and graphing calculators are not allowed. Cell phones are not allowed to be out during exams.

### QUIZZES

Quizzes will be administered during the first 10 minutes of each lab period, except for the first week. These are easy points. If you go to recitation and read your lab manual prior to walking into class, you should be able to answer these 2 or 3 short-answer questions. The purpose of the quizzes is to ensure you've read the manual and have some clue as to what will be expected of you. One of the questions will involve a simple calculation. **Quizzes will NOT be given after the first 10 minutes.** If you are late to lab, you will get a zero for that quiz. The ten highest quiz grades will be used to calculate your final grade for the lab.

### GRADING POLICY

Exams:	100 points each	300
Lab reports	100 points each	400
Lab practical	100	100
Quizzes	10	100
T.A. points	20	20

Aside from the TA points, total points for a perfect score for the semester will be 900. The teaching assistant points are entirely extra credit that will be given to you SOLELY AT THEIR DISCRETION.

### **No exam scores will be dropped. Grades will not be curved.**

90% or more will be an A, 80-89% a B, 70-79% a C, 60-69% a D, and 59% or lower an F. Plus/minus grading may be used when a student is very close (within 5 points) to the cutoff for a particular grade.

Teaching assistants may subtract points from lab report scores if you are late to lab or if they feel that you have been behaving in an inappropriate (i.e., unsafe) manner.

In general, grading will follow the Undergraduate Grading Policy as defined by the Vice Provost for Undergraduate Education.

**November 10 is the last day a student may resign from a course and receive an R grade.** After this date do not ask for a resignation; it's not possible to give you one.

**Incomplete** grades can only be given in cases where a student is unable to complete the course due to unforeseen problems. The reason a student wishes to receive an I must be documented.

**The student must be receiving a passing grade** in the class at the time the I is issued. The student will be given up to 15 months to complete only that portion of the work that was not completed. An I grade does not allow you to "start over" next year.

The website for UB's policy on receiving an I is found here:

<http://undergrad-catalog.buffalo.edu/policies/grading/explanation.shtml#incomplete>

### **ABSENCES**

Only medical emergencies are valid excuses for missing an exam or lab. If you miss an exam with a valid medical excuse, Dr. Berry (not your TA) must be notified within 24 hours of the missed lab or exam. Send him an e-mail at [camjob@buffalo.edu](mailto:camjob@buffalo.edu). All medical excuses must be accompanied by a signed doctor's excuse with the doctor or clinic's phone number. All excuses will be verified. Students who do not notify Dr. Berry within 24 hr of missing an exam will not be given a make-up exam.

**Makeup exams must be taken within 24hr of having missed an exam. Exams taken more than 24hr late will lose 25 points. An additional 25 points will be subtracted from your total score for each additional 24hr that the make-up exam is delayed.**

**Missed exams** may be re-administered as oral exams.

**Missed quizzes** cannot be re-taken.

**\*Note that this schedule is incomplete. This year, a new CRISPR gene editing lab (lab #4) will be added and incorporated into the schedule during the second half of the semester.**

## **Lab Schedule**

<b><u>Dates</u></b>	<b><u>Lab numbers</u></b>	<b><u>Other information</u></b>
Aug 28- Aug 31	Intro to sterile techniques	no written quiz this week
Sept 4 - Sept 7	none	no labs or recitation this week
Sept 11 -Sept 14	1.1	
Sept 18- Sept 21	1.2, 2.1	
Sept 25 – Sept. 28	2.2, 2.3, 2.4	lab report #1 & exam #1 next week
<b>Oct 2</b>	<b>EXAM #1</b>	
Oct 2 - Oct 5	2.5, 2.6	<b>lab report #1 due this week</b>
Oct 9 - Oct 12	2.7	
Oct 16 - Oct 19	2.8	lab report #2 due next week
Oct 23 - Oct 26	3.1	<b>Lab report #2 due this week</b> Exam #2 next week
<b>Oct. 30</b>	<b>EXAM #2</b>	
Oct. 30 - Nov 2	3.2, 3.3	
Nov 6 - Nov 9	3.4	This is a computer-based lab. Complete as much as you can prior to the start of lab. If you have questions, there will be a help session after the quiz.
Nov 13 - Nov 16	3.5	
Nov 20 - Nov 23		No labs this week. Happy Thanksgiving!
Nov 27 - Nov 30	3.6	Exam #3 & lab report #3 next week
<b>December 4</b>	<b>EXAM #3</b>	
<b>Dec 4- Dec 7</b>	<b>lab practical this week</b>	<b>lab report #3 due.</b>

**This is the official outcomes & assessment grid that is required by UB:**

Program Learning Outcome	Specific outcome objectives	Assessment instrument	Defined Success Level
Students will acquire laboratory and field skills necessary to answer biological questions and an ability to understand and employ scientific methodologies. They will be able to understand how to obtain, critically evaluate, and communicate experimental results	Demonstrate ability to understand and troubleshoot molecular genetic experiments.	Assessment will be through three lab reports. Each report will report the results of a set of experiments and discuss how the results relate to the goals of those experiments.	At least 70% of class earns 60% of available points
Students will develop effective quantitative reasoning skills and be able to operate as a scientist to formulate and test appropriate biological hypotheses. They will be engaged both independently and collaboratively in the scientific process and learn to critically evaluate the veracity and value of published information.	Students will learn to use common calculations needed for determining concentration, making solutions, and dilution	This outcome will be addressed as part of the lab practical at the end of the year.	At least 70% of class earns 60% of available points
Students will develop an interest in lifelong learning and be able to evaluate and advance knowledge in biology. Students will be exposed to current problems in biology, as well as develop an appreciation for the nature of living organisms, the mechanisms of life function, the different levels of biological organization and the interactions among organisms and their environments.	Learn the basics of how scientists determine which gene(s) are responsible for a particular phenotype.	Lab report number 3	At least 70% of class earns 60% of available points